

3.8 CHINCOTEAGUE CHANNEL MARSH STUDY SITE

3.8.1 Qualitative Description

Physical description. This small site (Figure 12) is approximately 5 ha and is located immediately next to Chincoteague Channel on the southwest corner of Chincoteague Island adjacent to the Ocean Breezes South Study Site.

Several large spoil banks and dredged channels dissect the site and have destroyed perhaps 10% to 15% of the estuarine marsh which existed formerly. However, much of the original hydrologic circulation and expanses of estuarine vegetation remain.

Definitions. The WIA includes the site as outlined by the EPA. The basin consists of the tidal creek which flows into Chincoteague Bay. The sub-watershed includes the filled areas which run down the middle of the site and around the edges of the site.

Qualitative vegetation description. The wetland areas of the site are dominated by Spartina alterniflora, S. patens, and Distichlis spicata. The higher areas of the wetlands and the filled dikes are covered with Iva and Baccharis and other shrubs.

Wetland classification. The wetlands on this site are largely estuarine emergent with small patches and strips of estuarine scrub/shrub.

Substrate, water salinity. Most of the substrates underneath this site are basically sand, but are overlain by a layer of estuarine organic soils which may be up to 20-50 cm thick. Water enters and exits the site through a fairly open inlet so that salinities within the site range from 15 to 30 ppt depending on local rainfall and tidal conditions.

Wildlife use. As with most small estuarine marshes this area is heavily utilized by estuarine fishes. In addition, a variety of shorebirds and waterfowl also are present at times.

Hydrologic functions. While drainage is restricted to certain areas of the site by construction of dikes and filled areas, most of the site is still flushed through an inlet/outlet which flows into Chincoteague Bay. Drainage within the site would be improved easily by breaching the artificial dikes at several points. Like most estuarine sites the ground-water recharge potential is low. Flood storage and nutrient retention, however, are probably high.

3.8.2 Adamus and Stockwell Evaluations: Chincoteague Channel Marsh

Summary Sheet D

This form is the appropriate place for recording the ratings that result from use of the interpretation procedures and keys in Sections 2.1.2. and 2.2.2. As each analysis is completed, enter its rating (high, moderate, or low; or A, B, or C) in the relevant box until all boxes for functions of interest are filled.

Begin by labeling the context of the analysis (pre- or post- construction, with or without mitigation, name of basin and WIA). Then enter the data, using the numbered footnotes to help locate the associated analyses. For the evaluation of each function's Effectiveness, enter whichever rating is higher--that for the basin or that for the WIA. The evaluation of the impact vector is optional.

BASIN _____		WIA _____		PROJECT _____	
EVALUATION TIME FRAME (PRE/POST) _____		MITIGATION PLAN # _____			
FUNCTION	EFFECTIVENESS ¹	OPPORTUNITY ²	FUNCTIONAL RATING ³	SIGNIFICANCE ⁴	FUNCTIONAL SIGNIFICANCE ⁵
GROUND WATER RECHARGE ⁶	low	moderate	low	moderate	low
GROUND WATER DISCHARGE ⁷	moderate		moderate	high	high
FLOOD STORAGE ⁸	high	high	high	moderate	high
SHORELINE ANCHORING ⁹	moderate	moderate	moderate	high	high
SEDIMENT TRAPPING ¹⁰	moderate	high	high	moderate	high
NUTRIENT RETENTION LONG-TERM ¹¹ SEASONAL ¹²	moderate moderate	high high	high high	moderate	high high
FOOD CHAIN SUPPORT DOWNSTREAM ¹³ IN-BASIN ¹⁴	moderate moderate		moderate moderate	moderate	moderate moderate
FISHERY HABITAT WARMWATER ¹⁵ COLDWATER ¹⁶ COLDW. RIVERINE ¹⁷ ANADROMOUS RY SPECIES ¹⁸ <u>Bl. Fish, Hd. Cl., Win. Fl.</u> *	low moderate		low moderate	moderate	low moderate
WILDLIFE HABITAT GENERAL DIVERSITY ¹⁹ WATERFOWL GP. ²⁰ 1 WATERFOWL GP. ²¹ 2 SPECIES ²² <u>COMMON egret</u> SPECIES ²³ _____ SPECIES ²⁴ _____	summer <u>winter</u> ** moderate low low high		moderate low low high	moderate	moderate low low high
ACTIVE RECREATION ²⁵ SWIMMING BOAT LAUNCHING POWER BOATING CANOEING SAILING	low low low low low		low low low low low	moderate	low low low low low
PASSIVE RECREATION AND HERITAGE ²⁶				moderate	moderate
IMPACT VECTOR RATING ²⁷					

FOOTNOTES

These entries will be based on analyses in the following parts of Volume II (numbers correspond to footnotes above):

- 1-Forms A, A1 (p. 6, 51); 2-Section 2.1.2.2. (p. 97); 3-Forms B, B1 (p. 38, 54); 4-Section 2.1.2.2. (p. 97); 5-Interpretation key in Section 2.1.2.1. p. 57; 6-p. 59; 7-p. 60; 8-p. 62; 9-p. 64; 10-p. 67; 11-p. 67; 12-p. 69; 13-p. 71; 14-p. 73; 15-p. 75; 16-p. 79; 17-p. 80; 18-p. 84; 19-p. 91; 20-p. 92; 21-p. 93.

* Blue Fish, Hard Clam, Winter Flounder **Too small to score high

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Response Sheet A1

THRESHOLD ANALYSIS: FUNCTIONAL OPPORTUNITY AND EFFECTIVENESS

This sheet is the appropriate place for recording the responses to corresponding questions in Form A. A "yes" (Y) or "no" (N) response must be circled for all parts of each question, even when the response seems obvious. This response sheet has two major columns--"WIA" and "BASIN", and within each of these, three subcolumns entitled "I", "W", and "D", which address, when relevant, the seasonal changes in some of the predictors, as follows:

I column responses are those addressing either (a) the average annual condition, or (b) the condition intermediate between the wettest and driest annual conditions (e.g., late June in most Prairie pothole wetlands), or (c) the condition of maximum annual standing crop of wetland plants, or (d) if tidal, the average daily mid-tide condition.

W column responses are those addressing what the area would look like (a) during the wettest time of an average year, or (b) if the area is tidal, what it would look like during an average daily high tide (flooded) condition.

D column responses are those addressing what the area would look like during either the driest time of the year (questions pertaining to hydrology) or if the question pertains to vegetation, then during the dormant time of the year. If the area is tidal, "D" refers to its daily low tide (exposed) condition.

For example, question 2.1.1 should first be asked and answered in the context of the WIA's (wetland impact area's) average condition, then in terms of its wettest condition, then the basin's average condition, and finally the basin's wettest condition. This should then be repeated for question 2.1.2. Because no Y/N choice is given in either "D" column, the area's dry or dormant condition need not be evaluated for this question. Similarly, some questions will require responses only for the WIA or basin, but not both.

Q. #	WIA			BASIN		
	I	W	D	I	W	D
<u>Office-type Data</u>						
1.1	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)
1.2	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)
1.3	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)
1.3.1	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)	Y (N)

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Q. #	WIA	D	BASIN	D			
2.1.1	Y N	Y N	Y N	Y N			
2.1.2	Y N	Y N	Y N	Y N			
2.2.1	Y N	Y N	Y N	Y N			
2.2.2	Y N	Y N	Y N	Y N			
3.1			Y N	Y N			
3.2			Y N	Y N			
4.1	Y N						
4.2	Y N						
5.1			Y N	Y N			
5.2			Y N	Y N			
6.1	Y N						
6.2	Y N						
7.1			Y N	Y N	See	comment	form
7.2			Y N	Y N	See	comment	form
8.1			Y N	Y N			
8.2			Y N	Y N			
9.1			Y N	Y N			
9.2			Y N	Y N			
10.1	Y N						
10.2	Y N	NA					
10.3	Y N						
10.4	Y N						
11.1	Y N						
11.2	Y N						
12.1	Y N	NA					
12.2	Y N						
13.1		NA	Y N	Y N			
13.2			Y N	Y N			
14.	Y N		Y N	Y N			
15.1	Y N						
15.2	Y N						
15.3	Y N						
15.4	Y N						
15.5	Y N						
15.6	Y N						
15.7	Y N						
16.	Y N						
17.1	Y N						
17.2	Y N						
18.	Y N						
19.	Y N						
20.			Y N	Y N			
21.1	Y N						
21.2	Y N						
21.3	Y N						
21.4	Y N						
21.5	Y N						
21.6	Y N						
Field-type Data					See comment form		
22.1	Y N	Y N	Y N	Y N			
22.1.1	Y N	Y N	Y N	Y N			
22.1.2	Y N	Y N	Y N	Y N			
22.1.3	Y N	Y N	Y N	Y N			
22.1.4	Y N	Y N	Y N	Y N			
22.1.5	Y N	Y N	Y N	Y N			
22.2	Y N	Y N	Y N	Y N			
22.2.1	Y N	Y N	Y N	Y N			

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Q. #	WIA			BASTN					
	I	M	D	I	M	D			
22.2.2	Y	N		Y	N				
22.2.3	Y	N		Y	N				
22.2.4	Y	N		Y	N				
22.2.5	Y	N		Y	N				
22.3	Y	N		Y	N				
22.3.1	Y	N		Y	N				
22.3.2	Y	N		Y	N				
22.3.3	Y	N		Y	N				
22.3.4	Y	N		Y	N				
22.4	Y	N		Y	N				
22.4.1	Y	N		Y	N				
22.4.2	Y	N		Y	N				
22.5	Y	N		Y	N				
22.6	Y	N		Y	N				
23.1	Y	N		Y	N		See Comment form		
23.2	Y	N		Y	N				
23.3	Y	N		Y	N				
23.4	Y	N		Y	N				
23.5	Y	N		Y	N				
23.6	Y	N		Y	N				
23.7	Y	N		Y	N				
23.8	Y	N		Y	N				
23.9	Y	N		Y	N				
24.1	Y	N							
24.2	Y	N							
24.3	Y	N							
24.4	Y	N							
24.5	Y	N							
24.6	Y	N							
25.1	Y	N							
25.2	Y	N							
25.3	Y	N							
26.1									
26.2									
26.3									
26.4									
26.5									
26.6									
26.7									
26.8									
26.9									
26.10									
26.11									
27.1		Y	N		Y	N			
27.2		Y	N		Y	N			
28.1				Y	N				
28.2				Y	N				
29.				Y	N				
30.1	Y	N							
30.2	Y	N							
31.1		Y	N						
31.2		Y	N						
32.1	Y	N		Y	N				
32.2	Y	N		Y	N				
32.3	Y	N		Y	N				
32.4	Y	N		Y	N				
32.5	Y	N		Y	N				
32.6	Y	N		Y	N				
32.7	Y	N		Y	N				
32.8	Y	N		Y	N				

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O. #	WTA			BASIN					
33.1	Y	N	Y	Y	N	Y			
33.2	Y	N	Y	Y	N	Y			
33.3	Y	N	Y	Y	N	Y			
33.4	Y	N	Y	Y	N	Y			
33.5	Y	N	Y	Y	N	Y			
33.6	Y	N	Y	Y	N	Y			
33.7	Y	N	Y	Y	N	Y			
33.8	Y	N	Y	Y	N	Y			
34.1	Y	N	Y	Y	N	Y			
34.2	Y	N	Y	Y	N	Y			
34.3	Y	N	Y	Y	N	Y			
34.4	Y	N	Y	Y	N	Y			
34.5	Y	N	Y	Y	N	Y			
34.6	Y	N	Y	Y	N	Y			
34.7	Y	N	Y	Y	N	Y			
34.8	Y	N	Y	Y	N	Y			
35.1	Y	N	Y	Y	N	Y			
35.2.1				Y	N	Y			
35.2.2				Y	N	Y			
35.2.3				Y	N	Y			
36.	Y	N	Y	Y	N	Y			
37.1									
37.2									
38.1				Y	N	Y			
38.2	Y	N	Y				N/A		
39.1	Y	N	N/A						
39.2	Y	N	N/A						
39.3	Y	N	N/A						
39.4	Y	N	N/A						
39.5	Y	N	N/A						
39.6	Y	N	N/A	Y	N	Y	see comment form		
40.	Y	N	Y				N/A		
41.1				Y	N	Y	} see comment form		
41.1.1				Y	N	Y			
41.1.2				Y	N	Y			
41.1.3				Y	N	Y			
41.2				Y	N	Y			
41.2.1				Y	N	Y			
41.2.2				Y	N	Y			
41.2.3				Y	N	Y			
41.3				Y	N	Y			
41.3.1				Y	N	Y			
41.3.2				Y	N	Y			
41.3.3				Y	N	Y			
41.4				Y	N	Y			
42.1	Y	N	Y						
42.2	Y	N	Y						
42.3	Y	N	Y						
43.	Y	N	Y	Y	N	Y			
44.1				Y	N	Y			
44.2				Y	N	Y			
45.1	Y	N	Y						
45.2	Y	N	Y						
46.1	Y	N	Y						
46.2	Y	N	Y						
46.3	Y	N	Y						
46.4	Y	N	Y						
47.1	Y	N	Y						
47.2	Y	N	Y						
48.1	Y	N	Y						
48.2	Y	N	Y						

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Q. #	WTA			BASIN					
	Z	V	D	Z	V	D			
49.1				YN					
49.2				YN					
50.	YN	YN	YN						
51.		YN							
<u>Detailed Data</u>									
52.1.1	YN	NA							
52.1.2	YN	NA							
52.2.1	YN								
52.2.2	YN								
53.1	YN								
53.2	YN	NA							
54.1	YN								
54.2	YN	NA							
55.	YN	NA							
56.		NA			YN				
57.1	YN								
57.2	YN								
57.3	YN	NA							
57.4	YN								
58.1	YN								
58.2	YN								
58.3	YN	NA							
58.4	YN								
59.1		NA		YN					
59.2		NA		YN					
59.3				YN					
60.1		NA			YN				
60.2		NA		YN					
60.3				YN					
61.1	YN								
61.2	YN	NA							
62.	YN	NA							
63.1				NA	YN				
63.2				NA	YN				
64.				NA	YN				
65.	YN								
66.1		YN	NA		YN				
66.2		YN	NA		YN				
67.1		YN	NA		YN				
67.2		YN	NA		YN				
68.1	YN		NA		YN				
68.2	YN		NA		YN				
<u>Derived Responses</u>									
69.1	YN								
69.2	YN								
70.1	YN								
70.2	YN								
71.1	YN								
71.2	YN								
72.1	YN								
72.2	YN								
73.1	YN								
73.2	YN								
74.1	YN								
74.2	YN								
75.1	YN								
75.2	YN								

After responses to all possible questions (Form A) have been recorded above, turn to Form B (page 38). You will(as an option) return to this sheet (in Section 2.1.2) to interpret the above responses.

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Response Sheet B1

THRESHOLD ANALYSIS: SIGNIFICANCE

This sheet is the appropriate place for recording the responses to the corresponding questions in Form B. Circle Y (yes) or N (no), being careful to note that the order of Y and N below frequently reverses.

General

- 1.1 ☐ Y ☒ N
- 1.2 ☐ Y ☒ N
- 1.3 ☐ Y ☒ N
- 1.4 ☐ Y ☒ N
- 1.5 ☐ Y ☒ N
- 1.6 ☐ Y ☒ N
- 2. ☐ Y ☒ N

Recharge

- 3. ☐ Y ☒ N
- 4. ☐ Y ☒ N
- 5. ☐ Y ☒ N
- 6. ☐ Y ☒ N
- 7. ☐ Y ☒ N
- 8. ☐ Y ☒ N
- 9. ☐ Y ☒ N
- 10. ☐ Y ☒ N

Discharge

- 11. ☐ Y ☒ N
- 12. ☐ Y ☒ N
- 13. ☐ Y ☒ N
- 14. ☐ Y ☒ N
- 15. ☐ Y ☒ N

Flood Storage

- 16. ☐ Y ☒ N
- 17. ☐ Y ☒ N
- 18. ☐ Y ☒ N
- 19. ☐ Y ☒ N
- 20. ☐ Y ☒ N
- 21. ☐ Y ☒ N
- 22. ☐ Y ☒ N

Shoreline

Anchoring

- 23. ☐ Y ☒ N
- 24. ☐ Y ☒ N
- 25. ☐ Y ☒ N
- 26. ☐ Y ☒ N
- 27. ☐ Y ☒ N
- 28. ☐ Y ☒ N
- 29. ☐ Y ☒ N

Sediment

Trapping

- 30. ☐ Y ☒ N
- 31. ☐ Y ☒ N
- 32. ☐ Y ☒ N
- 33. ☐ Y ☒ N
- 34. ☐ Y ☒ N
- 35. ☐ Y ☒ N
- 36. ☐ Y ☒ N

Nutrient

Retention

- 37. ☐ Y ☒ N
- 38. ☐ Y ☒ N
- 39. ☐ Y ☒ N
- 40. ☐ Y ☒ N
- 41. ☐ Y ☒ N
- 42. ☐ Y ☒ N

Fish Food Chain/ Habitat

- 43. ☐ Y ☒ N
- 44. ☐ Y ☒ N
- 45. ☐ Y ☒ N
- 46. ☐ Y ☒ N
- 47. ☐ Y ☒ N
- 48. ☐ Y ☒ N
- 49. ☐ Y ☒ N
- 50. ☐ Y ☒ N
- 51. ☐ Y ☒ N
- 52. ☐ Y ☒ N
- 53. ☐ Y ☒ N

Wildlife

Habitat

- 54. ☐ Y ☒ N
- 55. ☐ Y ☒ N
- 56. ☐ Y ☒ N
- 57. ☐ Y ☒ N
- 58. ☐ Y ☒ N
- 59. ☐ Y ☒ N
- 60. ☐ Y ☒ N

Active

Recreation

- 61. ☐ Y ☒ N
- 62. ☐ Y ☒ N
- 63. ☐ Y ☒ N
- 64. ☐ Y ☒ N
- 65. ☐ Y ☒ N
- 66. ☐ Y ☒ N
- 67. ☐ Y ☒ N

Passive

- 68. ☐ Y ☒ N
- 69. ☐ Y ☒ N
- 70. ☐ Y ☒ N
- 71. ☐ Y ☒ N
- 72. ☐ Y ☒ N
- 73. ☐ Y ☒ N
- 74. ☐ Y ☒ N
- 75. ☐ Y ☒ N
- 76. ☐ Y ☒ N
- 77. ☐ Y ☒ N
- 78. ☐ Y ☒ N

Form "A" Comments (Chincoteague Channel Marsh Study Site)

WIA	= area inside dashed line (Figure 12)
Basin	= WIA + equivalent area (extending width of wetland into Chincoteague Bay)
7,8	Sub-watershed = cleared parking area around WIA
22	Basin (as well as WIA) considered emergent
23	< 50 cm porous organic
39.5	Two vegetated dams across creek. Origin unknown
41	Basin includes WIA